DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-022204
Date Inspected: 29-Mar-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Job Site

CWI Name:	Steve Jensen and Fred Von Hoff			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Orthotropic Box Girder

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 10E/11E LS5 longitudinal stiffener inside, QA randomly observed ABF welder Hua Qiang Hwang continuing to perform 3G (vertical) Shielded Metal Arc Welding (SMAW) complete joint penetration (CJP) welding fill pass to cover pass on the stiffener splice butt joint. The stiffener plates being welded are made of high strength plate material HPS 485W and has a thickness of 30mm. The joint has a double V joint preparation that was welded from one side and after the completion from one side to be back gouged, Non Destructive Testing (NDT) tested using Magnetic Particle Testing (MT) and back welded to the other side. The welder was noted using E9018H4R with 1/8” diameter electrode implementing Caltrans approved welding procedure specification (WPS) ABF-WPS-D1.5-1012-3. The joint being welded was root welded using a ceramic backing. The splice joint was preheated to greater than 200 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blanket located at the opposite side of the plate prior/during welding. The QA Inspector noted the ABF QC Fred Von Hoff was on site monitoring the in process preheats and welding parameters. During the shift, QA noted ABF QC Fred Von Hoff was closely monitoring the issuance of E9018H4R electrodes due to its limited exposure time allowed. During the shift, cover pass welding on both sides of the butt joint was completed and the welder has moved to LS6 of the same location. The welder was instructed by QC to hold the preheat of >200° F for the LS5 stiffener joint just welded for three more hours after welding as required.

At OBG 5E-PP35-E4-#2 & 4 lifting lug access holes to top deck plate inside - ABF welder Salvador Sandoval was

observed 4G SMAW back welding cover pass on the infill plate to top deck plate butt joint. The welder was noted using 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1110A. During welding, ABF QC Fred Von Hoff was noted monitoring the welder's welding parameters. During the shift, cover pass welding on the two access holes was completed and the welder also ground flush the weld cover reinforcement as required. After the completion of the flush grinding, the welder has moved to access hole #2 and #4 of 5E-PP31-E4 (inside) and started back gouging the two welded from the top butt joints.

At OBG 7E-PP53-E4-#2 & 4 lifting lug access holes to top deck plate inside - ABF welder Jason Collins was observed 4G SMAW back welding cover pass on the infill plate to top deck plate butt joint. The welder was noted using 1/8" diameter E7018H4R electrode implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-1110A. During welding, ABF QC Fred Von Hoff was noted monitoring the welder's welding parameters. During the shift, cover pass welding on the two access holes was completed and the welder also ground flush the weld cover reinforcement as required. After the completion of the flush grinding, the welder has moved to the top deck (outside) and setup his welding equipment at new lifting lug access holes location at OBG 7E-PP55-E4-#1 to 4.

At OBG 9W/10W side plate 'C2' (0mm to 2640mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding cover pass on the splice butt joint. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Steve Jensen was noted monitoring the welding parameters of the welder. During the shift, cover pass welding was completed and the welder has moved to side plate 'C1' (2640mm to 5278mm) of the same OBG. The welder had waited also for sometime before they have moved to their new location due to the bolting crew was on their way removing the temporary WT stiffener connection plates.

At the request of Quality Control Field Supervisor, Bonifacio Daquinag, QA has randomly verified the QC VT/MT of the Complete Joint Penetration (CJP) welding of twenty three (23) lifting lug access hole to top deck plate butt joints. The QA verification was performed to verify that the welding and the VT/MT inspection performed by the QC inspector meet the requirements of the contract documents. At the conclusion of the QA verification it appeared that the weld and the QC inspection complied with the contract documents.

1. OBG 5E-PP35-E4-#2 & 4 lifting lug access hole inside - QA VT verified
2. OBG 7E-PP53-E4-#1 to 4 lifting lug access hole inside - QA VT verified
3. OBG 7E-PP52-E4-#1 to 4 lifting lug access hole outside - QA VT/MT verified
4. OBG 6E-PP44-E4-#1 to 4 lifting lug access hole outside - QA VT/MT verified
5. OBG 6W-PP40-W3-#1 to 4 lifting lug access hole outside - QA VT/MT verified
6. OBG 5W-PP31-W3-#4 lifting lug access hole outside - QA VT/MT verified
7. OBG 5W-PP35-W3-#1 to 4 lifting lug access hole outside - QA VT/MT verified

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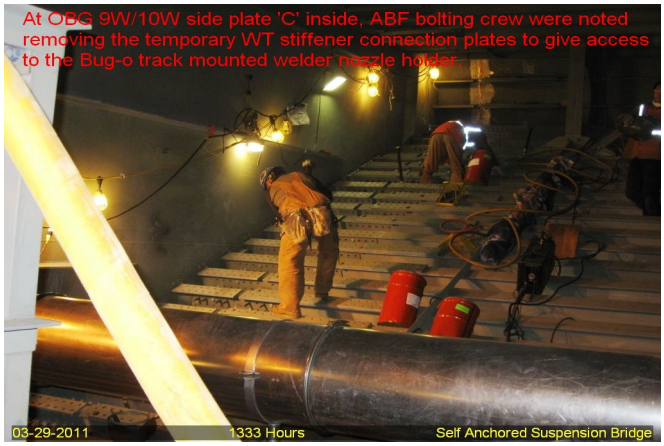

Summary of Conversations:

No significant conversation ocurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer